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ABSTRACT

One purpose of this study was to summarize data across schools to provide documentation of the generalizability of the claim of validity of the Law School Admission Test (LSAT) for use in the law school admission process. A more important purpose is to provide national longitudinal data for law schools to examine against their school-specific data to help them increase their understanding of their own admission process. For the 3-year period 1990 through 1992, 167 schools participated in correlation studies in each year. The 3-year national summary of the LSAT correlation studies in these years lends continued support for the validity of the LSAT in the law school admission process. Findings show that the combination of LSAT and undergraduate grade point average (UGPA) is a useful predictor of academic performance in the first year of law school. As has always been the case, the combined predictors continue to be superior to either predictor alone for predicting first-year average. LSAT results alone continues to be a better predictor than UGPA alone. The median validity of the LSAT alone is 0.41, compared with 0.26 for the UGPA alone. Cross validation studies support the use of regression equations based on previous first-year classes to predict future performance of law school applicants. (SLD)

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Predictive Validity of the LSAT: A National Summary of the 1990-1992 Correlation Studies

Linda F. Wightman

Law School Admission Council
Research Report 93-05
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Predictive Validity of the LSAT: A National Summary of the 1990-1992 Correlation Studies

INTRODUCTION

For approximately 45 years, the sponsors of the Law School Admission Test (LSAT) have offered to conduct studies of the effectiveness of the test as well as other predictors of law school performance used in the admission process. These studies are offered free of charge to participating law schools, and schools have been encouraged to avail themselves of the service. Over the years, increasingly large numbers of law schools have participated in the LSAT correlation studies. During the three-year period from 1990 through 1992, 183 different schools participated in the studies and 527 correlation studies were conducted. Among the 183 schools, 167 schools participated for each of the three years—1990, 1991, and 1992. The summary data presented in this report are only from those 167 schools. By examining data based on the same set of schools over multiple years, trends can be examined and meaningfully interpreted.

One purpose of this study is to summarize data across schools to provide documentation of the generalizability of the claim of validity of the LSAT for use in the admission process. A more important purpose is to provide national longitudinal data for law schools to examine against their school-specific data to help them increase their understanding of their own admission process. Correlation studies are conducted for individual schools and school-specific results are reported exclusively to the schools whose data were analyzed. Thus, schools know how well the test and other predictors are performing within their own admission process, but they have no benchmark against which to evaluate their results.

The correlation studies provide valuable information to LSAT score users. One task frequently assigned to those responsible for law school admission is that of identifying from large groups of law school applicants, those who are most likely to succeed in law school. A limited amount of information usually is available from which to make that decision. Almost universally across all ABA-accredited law schools, and English language common-law law schools in Canada, both LSAT score and undergraduate grade point average are among the available data. Both are quantifiable measures that are potentially useful in making admissions decisions and many schools use this information extensively. If this (or any other) quantifiable information is relied on in the selection process, the burden is on the score user to obtain evidence that there is a relationship between the quantified variables and the outcome of interest to the admission committee—usually success in law school. The correlation studies can provide that evidence for participating schools. An additional value of the correlation studies is that they provide score users with quantifiable information about how their admission process is working, and about the make-up of their entering class.

The Criterion Variable

Academic success in law school is typically among the important outcomes that those responsible for admission would like to predict. To be sure, there exist other admission goals within individual law schools, but the LSAT purports to be useful for the limited purpose of predicting academic success, so a criterion related to academic success is the most appropriate one for validating the LSAT as a predictor. In the correlation studies, the variable used to represent academic success is first-year average (FYA) in law school. Using FYA as the criterion variable is not unique to LSAT validity studies. A variable based on first-year grades is the most typical criterion used to validate almost all admission tests. First-year average is not the only criterion that could be used, but it has several advantages that have shown it to

be a useful criterion. First, it represents a composite of the academic performance of a student after a year of law school. Some of the courses taken may have been easier than others; some professors more lenient in grading than others. By using the average of all the grades received, these differences in course difficulty and grading stringency tend to average out. Second, for law students, the first-year grade point average tends to represent basically the same curriculum for all of the students in the school. In subsequent years, different elective choices are represented in the composite average. Last, FYA data are available within a year, while other criteria might require a delay of two, three, or more years before a study can be conducted.

The Predictor Variables

Two predictor variables are used in the LSAT Correlation Studies: undergraduate grade point average (UGPA) and LSAT score. Individual schools may use other predictors in their admission process, but these two are available for every school. The UGPA used in the correlation studies is the same as the UGPA that Law School Admission Services provided to the law school from the Law School Data Assembly Service (LSDAS), and thus is the UGPA that was available to the law school at the time the admission decision was made. The undergraduate grade point average is computed by the LSDAS or according to LSDAS procedures, following the computing options selected from the undergraduate school the student attended. Grades computed in this manner are expressed on a scale of 0.00 to 4.33.

LSAT scores available for the correlation studies reported in this study all are on the 10-48 LSAT score scale. The three years included in this report are the last three years in which the entire entering class presented scores on the 10-48 scale. That is, the 1990 studies report data for the 1989-90 first-year class, the 1991 studies report data for the 1990-91 class; and the 1992 studies for the 1991-92 class. The 120-

180 score scale was introduced in June 1991 and the 1992-93 first-year class presented a mixture of 120-180 and 10-48 scale LSAT scores. For the majority of studies summarized in this report, the LSAT scores and UGPAs included in the analyses are accumulated over a three-year period. Data accumulated over three years provide more stable parameter estimates because a small number of outliers have less influence on prediction weights when the sample sizes are larger. This is particularly important for schools that use the compensatory admission model discussed later in this report. When schools allow a high test score to compensate for a low UGPA or vice versa, the range restriction in LSAT score or UGPA can change dramatically from year to year, particularly when the size of the school is relatively small. Fluctuation in range restriction causes fluctuation over time in the estimates of the raw regression weights. Aggregating data helps stabilize the weights.

Estimating Validity

The general concept of validity is a broad one, encompassing the accumulation of data to support a particular use of a test. The particular type of evidence obtained from the correlation studies is referred to as predictive validity. This is so because law school applicants' first-year law school grade point averages are predicted from their LSAT scores and undergraduate grade point averages. The statistical procedure used in these studies to predict law school performance from one or both of the prediction variables is linear regression. When a single predictor is used to predict the criterion, the prediction equation can be represented by a straight line on a graph that shows for every student a single point that represents both score on the predictor variable (e.g., LSAT score) and criterion score (e.g., FYA). The exact position of the line on the graph is calculated so as to minimize the (squared) distance of every point from the line. A statistic known as the correlation coefficient provides an estimate of how well the line represents the points on the graph. The correlation coefficient varies from 0, indicating no relationship,

to 1, indicating a perfect linear relationship. When the correlation coefficients are high, the points are close to the prediction line; when the coefficient is close to zero, there is little relationship between the points and the line. The closer the points are to the regression line (or the higher the correlation coefficient), the more accurately the predictor predicts the criterion. Figures 1a and 1b show two examples of prediction lines and the relative positions of data points for some sample law school data. In Figure 1a, LSAT score is the predictor, FYA is the criterion, and the correlation coefficient is .65. In Figure 1b, LSAT score and FYA are again the predictor and criterion variables, and the correlation coefficient is .01. The figures are provided as an illustration of the relative accuracy of different sized correlation coefficients.

Test score users should not expect to find perfect correlations between test scores and the law school performance criterion. Many factors other than the acquired academic skills measured by the LSAT contribute to academic performance. In addition, there is a certain amount of measurement error inherent in the test. When test scores and UGPAs are factors that influence the admission process, the range among admitted students becomes restricted relative to the applicant pool. Restricted range results in lower observed correlations. Further, the UGPA is influenced by factors such as the leniency of the graders, the rigor of the curriculum represented by the grades, as well as the students' motivation and application. UGPA too should not be expected to be a perfect predictor. In fact, experience shows UGPA alone typically to be a fairly poor predictor of later academic achievement. The correlation coefficient provides some information about how useful a predictor is—the higher the coefficient, the more useful the predictor—but there is no clear answer as to how large the coefficient should be in order for the predictor to be useful. One way to interpret the correlation coefficient (Brogden, 1946) is as the ratio of

Figure 1a

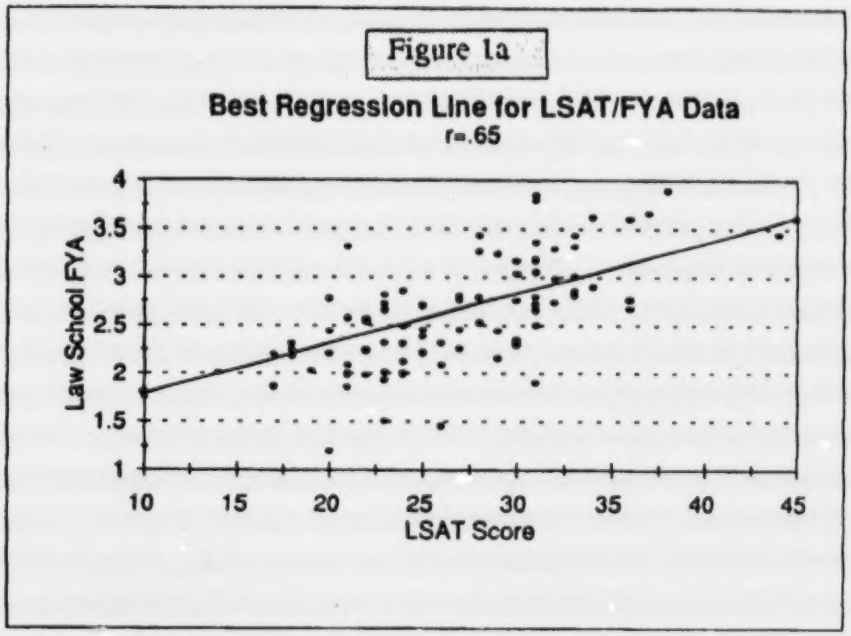
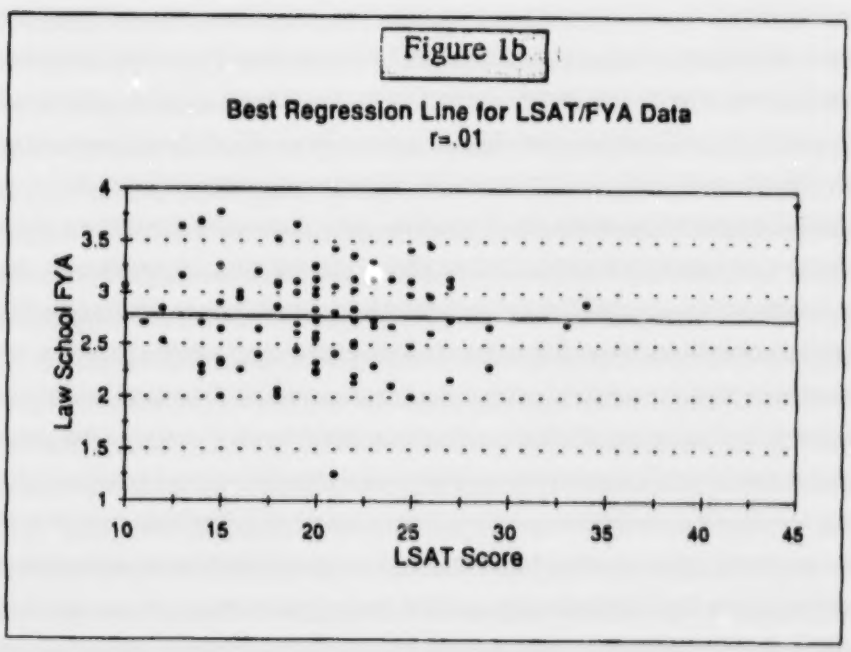


Figure 1b



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improvement in selection from using the test (or other predictor), instead of random selection, to the maximum possible improvement in selection. That is,

$$r = \frac{improvement\ in\ selection}{perfect\ selection}$$

For example, suppose a law school had selected without error those students who would be the most able law students and the FYA of those students was 3.75. Also suppose that if the same school had instead selected its first-year class completely at random, the FYA of those students would be 2.5. The difference in FYA between a class selected with perfect precision and one selected at random is 1.25. Now, the correlation coefficient tells us that if instead of random selection, the school selected the first-year class based on scores on a test that correlated .5 with FYA in the full applicant group, the average FYA of the students selected using the test would be 3.125. That is, the improvement resulting from using the test in the selection process would be .625 (.5 x 1.25) FYA points, which is 50 percent of the improvement over random selection that would result from perfect prediction. This explanation is a heuristic since perfect selection is a hypothetical. It is presented to provide an intuitive understanding of the concept of correlation.

RESULTS

Summary Data

Descriptive statistics for schools participating in the correlation studies for each of the years 1990, 1991, and 1992 are presented in Table 1. These data confirm that the average sample size for each correlation

Table 1

Descriptive Statistics for 167 Schools Participating in the LSAT Correlation Studies from 1990 Through 1992

Variable	Statistic	Study Period		
		1990	1991	1992
Sample size	Mean	651.34	655.16	627.34
	Standard deviation	294.43	295.57	287.88
	Range			
	Minimum	123	148	154
	Maximum	1,848	1,893	1,984
	Percentiles			
	25th	452	461	450
	50th (median)	603	603	576
	75th	801	775	756
LSAT	Mean	34.12	35.00	35.80
	Standard deviation	3.80	3.71	3.62
	Range			
	Minimum	15.43	17.34	18.05
	Maximum	42.84	43.54	44.09
	Percentiles			
	25th	31.51	32.48	33.49
	50th (median)	33.93	34.79	35.71
	75th	36.22	37.02	37.80
UGPA	Mean	3.13	3.15	3.18
	Standard deviation	.21	.20	.19
	Range			
	Minimum	2.57	2.61	2.66
	Maximum	3.60	3.61	3.61
	Percentiles			
	25th	2.99	3.01	3.05
	50th (median)	3.12	3.13	3.18
	75th	3.26	3.27	3.30

study is quite large. The size of the samples is primarily a consequence of the practice of including the most recent three years of student data in the study when it is available. Three years of data are not always available and all of the studies included in this report do not include three years of accumulated data. Schools participating for the first time may only be able to provide data for one year. More commonly, the correlation study is based on a single year of data when a school introduces a grading scale change. Eleven of the schools included in this summary introduced a grade scale change during one of the three study years. As evidenced by the minimum sample size of 123, even when only one year of data is available for analysis, the sample sizes are large enough to produce stable least square regression results. The advantage gained from using three years of data is found in the stability of the weights applied to the two predictor variables rather than in the magnitude of the correlation coefficients. The data in Table 1 show that both the mean and median LSAT of enrolled students increased consistently from year to year from 1990 through 1992. During the same time period, the mean and median UGPAs were much more stable, although there was a slight increase. The range of average LSAT scores across schools is fairly substantial, varying from a low mean of 18.05 to a high mean of 44.09 for the 1991-92 entering classes. The size of the range is approximately equal for each of the three study years. The range and variance of mean LSAT scores reported in Table 1 suggests that the differing characteristics of law schools are well represented in this report.

Correlation Coefficients

As discussed earlier, the correlation between predictor and criterion provides an indication of the usefulness of the predictor(s). The correlations presented in Table 2 show that for each of the study years, the LSAT score is a substantially better predictor of first-year performance in law school than is the undergraduate grade point average. The data also show that the combination of LSAT and UGPA

provides better prediction than either predictor alone. These results are consistent with findings from earlier LSAT validity summary reports (e.g., Evans 1982, Schrader, 1976.)

Table 2

Summary Correlations Between and Among Predictor and Criterion Variables for Law Schools Participating in 1990-1992 Correlation Studies

Variables	Year	Mean	Standard Deviation	25	50	75	Minimum	Maximum
Zero order correlations								
LSAT/FYA	1990	0.41	0.08	0.37	0.41	0.47	0.18	0.64
	1991	0.41	0.08	0.36	0.41	0.46	0.17	0.60
	1992	0.41	0.08	0.36	0.42	0.47	0.13	0.61
UGPA/FYA	1990	0.26	0.08	0.21	0.25	0.31	0.09	0.49
	1991	0.27	0.08	0.21	0.26	0.31	0.08	0.49
	1992	0.26	0.08	0.22	0.26	0.31	0.01	0.48
LSAT/UGPA	1990	0.01	0.13	-0.09	-0.01	0.10	-0.25	0.40
	1991	0.01	0.13	-0.09	0.00	0.09	-0.29	0.37
	1992	0.01	0.14	-0.09	0.02	0.10	-0.38	0.40
Multiple correlations								
LSAT & UGPA/FYA	1990	0.49	0.08	0.44	0.49	0.54	0.22	0.69
	1991	0.49	0.07	0.44	0.49	0.54	0.33	0.67
	1992	0.49	0.07	0.44	0.50	0.53	0.28	0.67

The size of the mean correlation coefficients is virtually identical for each of the three years. This consistency is attributable partly to the amount of overlap in the data resulting from the accumulation of three years of data for each study by most participating schools. The size of the correlations between LSAT and FYA, and between UGPA and FYA are consistent with those reported by Evans (1982) for the 1977 through 1979 LSAT correlations studies. That is, Evans reported median validity coefficients (correlations) of .39 for LSAT for each year, and of .23, .25, and .27 for UGPA for 1977, 1978, and

1979, respectively. Summarizing even earlier validity studies, Schrader (1976) reported the median correlations for LSAT to be .33 and for UGPA also to be .33 for the period 1963-70, along with medians of .35 for LSAT and .24 for UGPA for the period 1971-1974. These data show that the correlation coefficients for LSAT alone have shown small but steady increases over the years. In contrast, after the decline from the 1963-70 high of .33, the correlation coefficients for UGPA in the .25 to .27 range have remained fairly stable.

Stem and leaf plots provide a graphical illustration of the correlation coefficients reported in Table 2. Nine separate stem and leaf plots are provided in Figures 2a, 2b, and 2c. Separate plots are provided for each of the predictor combinations of LSAT and UGPA combined, LSAT alone, and UGPA alone, in that order, across each row. Figures 2a, 2b, and 2c show the separate distributions for the years 1990, 1991, and 1992 respectively. The stem (the left column of each plot) is the first digit of the correlation coefficient. The leaf (the row of numbers separated from the stem by a single space) shows the second digit of the correlation coefficient for each school that produced a correlation coefficient in the group defined by the stem. For example, looking at the 1990 data (Figure 2a), in the stem group between .60 and .64 on the plot of correlation coefficients resulting from the combined LSAT and UGPA predictors, four schools had correlation coefficients of .60. Thus, four zeros are printed in the row across from the 6. Likewise, the three *2s* represent the three schools that had correlation coefficients of .62 and the two *3s* represent the two schools that had coefficients of .63. Notice that there are two rows that begin with a six. The leaves in one row range from .60 to .64; the leaves in the other row range from .65 to .69. This pattern holds for every pair of rows in the figures. The right-hand column of each plot shows the number of schools represented in each stem and leaf (row) of the plot. If the stem and leaf plot is rotated

Figure 2a
Stem and Leaf Plots[1] for Prediction of FYA from LSAT Score and UGPA in Combination and Alone

1990 Data

Variable=LSAT and UGPA combined

Stem	Leaf	#
6	7789	4
6	000022233	9
5	5555555566677788889999	22
5	000111111222222223333333344444444444444	40
4	555555556666666666777777888888888888999999999999	48
4	000001111112222222333444444444	30
3	5667777889	10
3	124	3
2		0
2	2	1
1		0
1		0
0		0

Variable=LSAT alone

Stem	Leaf	#
6		0
6	124	3
5	5566888	7
5	000001111111122344	18
4	55555555666677777777778889999	30
4	000000011111111111112222222233333333334444	42
3	555555566677777777777888888999999999	37
3	000111122233334444	18
2	5889999	7
2	34	2
1	899	3
1		0
0		0

Variable=UGPA alone

Stem	Leaf	#
6		0
6		0
5		0
5		0
4	69999	5
4	03	2
3	55555555666788999	17
3	000000111111122222333333344444	29
2	55555555555556666666667777778888889999999	41
2	000000111111111111112222333333444444444444444444	46
1	5555667777778889999	19
1	12234	5
0	999	3

[1]Multiply Stem.Leaf (Y-axes) by 10**-1; X-axes equal count of observations

Figure 2b
Stem and Leaf Plots[2] for Prediction of FYA from LSAT Score and UGPA in Combination and Alone

1991 Data

Variable=LSAT and UGPA combined

Stem	Leaf	#
6	5567	4
6	011244	6
5	55555555566666667777888888899	28
5	000000111111111111111222333333334444444	38
4	55555666666666777777778888888888899999999999	44
4	00000000111112222222233333444444	31
3	6666788899	10
3	333444	6
2		0
2		0
1		0
1		0
0		0

Variable=LSAT alone

Stem	Leaf	#
6		0
6	0	1
5	5678999	7
5	0001111122333444	16
4	55555556666666666777888889999	28
4	000000111111111111222222333333333333444444444	42
3	55556666777788888888888888999999999999	38
3	000001122222222233333444	24
2	55788999	8
2	02	2
1	7	1
1		0
0		0

Variable=UGPA alone

Stem	Leaf	#
6		0
6		0
5		0
5		0
4	567789	6
4	01114	5
3	555566666778899	15
3	000111111111112222233344444	28
2	55555555555566666666777777777888888899999999	46
2	000011111122233333333334444444444	33
1	566677777777888888999999	24
1	12333334	8
0	88	2

[2]Multiply Stem.Leaf (Y-axes) by 10**-1. X-axes equal count of observations.

Figure 2c
Stem and Leaf Plots[3] for Prediction of FYA from LSAT Score and UGPA in Combination and Alone

1992 Data

Variable=LSAT and UGPA combined

Stem Leaf	#
6 557	3
6 01112223	8
5 55555666777888888899999	23
5 000000000001111111111111111122222222223333334444444	51
4 55556666777777788888888888888888899999999	40
4 00000111111111122223333444	25
3 557888999999	12
3 234	3
2 89	2
2	0
1	0
1	0
0	0
0	0

Variable=LSAT alone

Stem Leaf	#
6	0
6 001	3
5 55566678	8
5 0011122233344	13
4 55555555556666666777777788888888999	35
4 00000001111111111112222222333333333333444444444	44
3 55556666777788888999999999999	28
3 00011112222333333333444444	25
2 667778999	9
2 4	1
1	0
1 3	1
0	0
0	0

Variable=UGPA alone

Stem Leaf	#
6	0
6	0
5	0
5	0
4 688	3
4 012344	6
3 55566666667777788899	20
3 00000000111111122222234444	25
2 55555555555666666667777777777788888888888888889999	48
2 00001111122222222223333333333444444	35
1 556667778888889999	18
1 111233344	9
0 9	1
0 14	2

[3]Multiply Stem.Leaf (Y-axes) by 10**-1; X-axes equal count of observations.

90°, it can be viewed as a histogram of the distribution of correlation coefficients. Examination of the stem and leaf plots reveals that the coefficients are not widely variable across schools and the histograms are very peaked. Looking across the three plots within a single year affords an informative picture of the usefulness of the different predictors in providing information about first-year performance in law school. The correlation coefficients derived from the combined predictors are concentrated at the highest section of the plot because the combined predictors produce the highest correlation with first-year average. Moving from top to bottom on the page, the concentration of correlation coefficients steps down the stem axis, indicating slightly lower correlations resulting from using LSAT alone, and considerably lower correlations using UGPA alone. The step-down pattern is consistent across each of the three years of studies, and, of course, is consistent with the summary data reported in Table 2.

An individual school might find it of interest to locate its own correlation coefficient on each of the three stem and leaf plots for the relevant study year. By marking or circling their own coefficient, the school will have an indication of how well the predictor or combined predictors are working for them relative to other law schools. This information needs to be evaluated in context with other pertinent information, particularly the variability of the predictor(s) in the entering class(es) upon which the analyses are based and the correlation between LSAT and UGPA for members of the analysis class. The impact of each of these factors is discussed in later sections of this report.

Factors Influencing the Magnitude of the Correlation Coefficients

The correlation coefficients reported in Table 2 most likely are an underestimate of the true validity of the test. That is, the correlations are based on LSAT scores, UGPAs, and FYAs only for those students

who were accepted to and attended the studied law school. Most applicants with low test scores and low UGPAs are not admitted and thus there are no first-year grades for them. As a consequence, they cannot be included in the study. Because there is less variability in the scores of admitted students than in the scores of all applicants, correlations are smaller than they would have been had the class been admitted randomly from the total applicant pool. Thus, correlations obtained from matriculated students only tend to underestimate the true validity of the test. Even so, they are the best information that we have available, and even as underestimates they are quite reputable. In addition to the problem of reduced variability, matriculated students include some who are admitted as a result of special consideration. That is, some students with low test scores or low UGPAs are admitted to law school, but usually they are not typical of the low-scoring applicants who are rejected. Instead, they are admitted because the school has some other evidence of their ability to do well in law school. This practice frequently is referred to as a *compensatory admission model*. For example, a compensatory model allows a high LSAT score to compensate for a low UGPA and conversely, a high UGPA to compensate for a low LSAT score when making admission decisions. One way to determine whether a compensatory model for LSAT scores and UGPAs has taken place in a particular law school is to look at the correlation between LSAT score and UGPA. In a random group of applicants, this correlation would be fairly high, indicating that applicants with high LSAT scores also had high UGPAs, while applicants with low LSAT scores also had low UGPAs. When a compensatory model is used, the correlation between LSAT and UGPA frequently is negative because a large number of students with high LSAT scores have low UGPAs and vice versa. The correlations between the LSAT and UGPA reported in Table 2 are almost zero. Across the three years, the correlations range from -.38 to .40, suggesting that a substantial number of law schools are to some degree employing a compensatory admission model. The data presented in Table 3 show the effect of employing a compensatory model on the estimates of the validity coefficients. Schools that rely heavily

Table 3

Average Correlations of LSAT Scores and UGPA with FYA in Law Schools Grouped by the Correlation Between LSAT Score and UGPA

Year	Correlation of LSAT with UGPA	Predictor Variables: LSAT & UGPA Combined	Predictor Variables: LSAT Alone	Predictor Variables: UGPA Alone
1990				
	Less than 0	0.46	0.38	0.22
	(number of schools)	(90)	(90)	(90)
	0.0 to 0.2	0.52	0.44	0.30
	(number of schools)	(64)	(64)	(64)
	Greater than .2	0.58	0.52	0.38
	(number of schools)	(13)	(13)	(13)
1991				
	Less than 0	0.45	0.37	0.22
	(number of schools)	(81)	(81)	(81)
	0.0 to 0.2	0.52	0.44	0.29
	(number of schools)	(69)	(69)	(69)
	Greater than .2	0.57	0.50	0.38
	(number of schools)	(17)	(17)	(17)
1992				
	Less than 0	0.45	0.37	0.21
	(number of schools)	(78)	(78)	(78)
	0.0 to 0.2	0.51	0.44	0.29
	(number of schools)	(73)	(73)	(73)
	Greater than .2	0.58	0.52	0.40
	(number of schools)	(16)	(16)	(16)

on a compensatory model tend to have negative correlations between LSAT and UGPA and are represented in the rows labelled "Less than 0" in Table 3. Nearly half of the schools fell into this category for each of the years reported. The data show that the correlations for either predictor alone as well as for the two predictors combined are consistently higher for schools where the correlation between LSAT and UGPA is positive. For example, looking at the 1992 correlation study data, the average correlation between LSAT and FYA is .37 for schools that have a negative correlation between LSAT and UGPA, but it increases to .52 for schools that show a positive correlation greater than .2 between those variables. A similar pattern exists for UGPA alone and for LSAT and UGPA combined. The pattern is evidenced across each of the three years.

One observation of note from the data presented in Table 2 is that the range of correlation coefficients for any of the prediction models varies substantially from law school to law school. For example, the correlations between LSAT and FYA vary from a low of .13 to a high of .64. The cause for this amount of variation in what might be expected to be a stable environment was studied extensively by Linn (e.g., Linn, 1982; Linn, Harnish, and Dunbar, 1981). In analyzing the validity summary data reported by Schrader (1976), Linn determined that as much as 34 percent of the variance in observed validities could be predicted from observed standard deviations and variances of the LSAT. That is, the larger the variation (range) in the predictor, the higher the correlation with the criterion. Because so much variation is observed in the correlation coefficients for the validity studies summarized in this report, Linn's procedures were replicated using the 1990-92 correlation study data. The multiple correlation between the observed validities and the LSAT standard deviation and its square (the variance) was calculated for each study year. Similarly, the same calculations were made using UGPA standard deviation and its square and the combined LSAT and UGPA standard deviations and squares. The results are presented in Table 4. The amount of variance in observed validities predicted by the LSAT and its square is slightly

lower than was reported by Linn. For the 1992 data, only 23 percent of the variance is accounted for, although the 1990 31 percent is closer to Linn's result. For both the LSAT alone and for the LSAT and UGPA combined, there is a substantial relationship between variability among validity coefficients across law schools and variability in the predictors within law schools. In contrast, the variance in UGPA accounts for less than 3 percent of the variance in the UGPA validity coefficients. Even so, the relationship between validity and UGPA variability is larger than the .05 correlation reported by Linn and Hastings (1983).

Table 4

Multiple Correlations of Validity Coefficients with Standard Deviations and Squared Standard Deviations of Predictor Variables

	Predictor		
Year	LSAT Alone	UGPA Alone	LSAT & UGPA Combined
1990	.56	.13	.55
1991	.50	.11	.53
1992	.48	.17	.52

Cross Validation Studies

A primary purpose for conducting validity studies for most schools is to obtain the best possible prediction weights so that they can be applied to the application credentials of the next year's applicant pool to aid in the decision process. That is, data from past experience are used to make future predictions. When the results from the correlation studies are being used in this way, the most relevant question to ask is how well do the equations from previous first-year classes predict the performance of future first-year classes. To answer this question, several cross validation studies were conducted. Specifically, the prediction

equations calculated from the 1991 correlation studies (i.e., the 1990-91 first-year class data) were used to predict a first-year average for each member of the 1991-92 first-year class. Then, the correlation between the predicted FYA and the actual FYA earned by the members of the 1991-92 class was calculated. These calculations were performed separately for each school, using each school's unique least squares prediction model. Similarly, the 1990 correlation study equations were used to predict first-year performance for both the 1991 and 1992 class data. The results from these cross validations are presented in Table 5. The results from these analyses are nearly identical to the correlation coefficients reported in Table 2. When the equations from the immediately preceding year are used to predict FYA, the correlation between predicted and actual FYA exceeded .4 for more than 86 percent of the schools. These results are even better than those reported by Evans (1982) for the 1977-79 studies, when 73, 74, and 82 percent, respectively, of the schools exceeded the correlation coefficient value of .4.

Table 5

Cross Validated Multiple Correlations for 1990 and 1991 Prediction Equations Using 1991 and 1992 Class Data

	1990 Equations 1991 Class Data	1990 Equations 1992 Class Data	1991 Equations 1992 Class Data
Correlations between actual FYA and predicted FYA			
Mean	0.48	0.49	0.49
Standard deviation	0.09	0.10	0.10
Range			
Minimum	0.23	0.15	0.16
Maximum	0.69	0.69	0.69
Percentiles			
25th	0.42	0.43	0.44
50th	0.48	0.50	0.50
75th	0.54	0.56	0.56
Percentage GT .4	80.20	86.80	86.20

Accounting for Variance

The data in Table 2 show that the best model for predicting FYA is consistently the model that combines LSAT and UGPA, where best model is defined as the model that provides the highest correlation between the predictors and the criterion. On average, the LSAT accounts for more of the variance predicted by the model than does UGPA, although there are some schools for which this is not the case. As shown in Table 6, the mean variance accounted for by LSAT is approximately 60 percent and, thus, the mean variance accounted for by UGPA is approximately 40 percent. Another way of interpreting the percentage of variance accounted for is in terms of the relative weights of the two predictors. That is, the LSAT is weighted 60 percent and the UGPA 40 percent on average in order to obtain optimal prediction of FYA. The percent of variance accounted for by LSAT and by UGPA can vary considerably for individual schools. The variability of LSAT scores and UGPA, the correlation between UGPA and LSAT, and the amount of variability in the first-year averages all influence the amount of variance that will be accounted for by the two predictor variables in the model that provides optimal prediction of FYA.

Table 6

Summary of Percentage of Variance Accounted for by Predictor Variables in Multiple Regression Prediction Equations

				Range		Percentiles		
Variable	Year	Mean	Standard Deviation	Minimum	Maximum	25	50	75
LSAT	1990	58.79	6.91	22.54	77.37	54.90	58.79	62.44
	1991	58.78	7.28	19.73	74.17	55.46	58.42	62.89
	1992	59.80	6.85	18.13	74.42	55.84	60.59	63.97
UGPA	1990	41.21	6.91	22.63	77.46	37.56	41.21	45.10
	1991	41.22	7.28	25.83	80.27	37.11	41.58	44.54
	1992	40.20	6.85	25.58	81.87	36.03	39.41	44.16

Trends Over Time

The data presented in Tables 2 through 6 suggest that the results from the validity studies conducted for each of the 167 law schools that participated in the three most recent study cycles are very consistent from year to year. Data to look more specifically at data consistency across years are presented in Table 7. The average difference between validity coefficients between studies conducted for 1990 and 1991 and for 1991 and 1992 is zero. Additionally, the distribution of differences is fairly tight, as evidenced by the difference values that mark the 25th and 75th percentiles. Again these results are somewhat influenced by the inclusion of three years of data. For each subsequent year, the oldest data year is dropped and the most recent is added. Although this data design will minimize the influence of individual anomalies, systematic shifts in the data over time would be evidenced should they occur. The data reported in this study do not indicate changes in the validity of either predictor alone or in the combined predictors for the national data reported from the period 1990 through 1992.

Table 7

Average Size of Year to Year Differences in Validity Coefficients by Type of Prediction Model

Years	Differences	LSAT & UGPA Combined	LSAT Alone	UGPA Alone
1990-91	Mean	0.00	0.00	-0.00
	Standard deviation	0.04	0.04	0.05
	Percentiles			
	25th	-0.02	-0.02	-0.03
	50th	0.01	0.01	-0.00
	75th	0.03	0.03	0.03
1991-92	Mean	-0.00	-0.00	0.00
	Standard deviation	0.04	0.04	0.04
	Percentiles			
	25th	-0.03	-0.03	-0.02
	50th	-0.00	-0.00	-0.00
	75th	0.03	0.02	0.03

CONCLUSIONS

This three-year national summary of the LSAT correlation studies conducted in the years 1990, 1991, and 1992 lends continued support for the validity of the LSAT in the law school admission process. Major findings from this study are summarized as follows.

- The combination of LSAT and UGPA are useful predictors of academic performance in the first year of law school. The average multiple correlation between first-year grades in law school and the combined predictors of LSAT and UGPA of .49 is higher than has ever been reported previously. As has always been the case, these combined predictors continue to be superior to either predictor alone for predicting first-year average.

- LSAT alone continues to be a better predictor of law school performance than is UGPA alone. The median validity for LSAT alone is .41, compared with .26 for UGPA alone.

- When schools are grouped by the correlation between LSAT and UGPA, the validity coefficients increase when the correlations between the predictors increase. This relationship provides some indication of the impact of the restriction of range resulting from using only matriculated students on the estimates of validity, particularly in the presence of a compensatory admissions model.

- A substantial amount of the variability in validity coefficients obtained among different law schools is directly attributable to the amount of variation in LSAT scores and UGPAs in the data used to estimate the validity.

- Cross validation studies support the use of regression equations based on previous first-year classes to predict future performance of law school applicants.

An additional important outcome of the current study is that the data show no deterioration in the validity of the LSAT as a predictor of first-year performance in law school since the conduct of the validity summary study by Evans (1982) that looked at results from correlation studies carried out in 1977 through 1979. During this time period, the UGPA also has shown no change in its predictive power. Thus, the relative importance of the two remains essentially unchanged.

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